

What is claimed is:

1. A surface acoustic wave element including:
a sapphire single crystal substrate;
a hard layer formed on said sapphire single crystal substrate and having a composition containing $(Al_{1-x}M1_x)_2O_3$ ($0 \leq x \leq 0.5$) in which at least one element M1 (M1 = B, Ga, In, Ti, V, Cr, Mn, Fe, Co) is added to sapphire; and
a piezoelectric layer formed on said hard layer.
2. A surface acoustic wave element according to claim 1, wherein said hard layer has a corundum crystal structure.
3. A surface acoustic wave element according to claim 1, wherein said piezoelectric layer has a composition containing $(Al_{1-x}B_x)N$ ($0 \leq x \leq 0.5$) in which boron nitride is added to aluminum nitride, and has a wurtzite crystal structure.
4. A surface acoustic wave element according to claim 1, wherein said piezoelectric layer has a composition containing $(Zn_{1-x}M2_x)O$ ($0 \leq x \leq 0.5$) in which at least one element M2 (M2 = Li, Mg, Fe, Co., Ni, Cu) is added to zinc oxide, and has a wurtzite crystal structure.
5. A surface acoustic wave element including:
a single crystal substrate having a composition containing $(Al_{1-x}M1_x)_2O_3$ ($0 \leq x \leq 0.5$) in which element M1 (M1 = B, Ga, In, Ti, V, Cr, Mn, Fe, Co) is added to sapphire, and having a corundum crystal structure; and
a piezoelectric layer formed on said single crystal substrate.
6. A surface acoustic wave element according to claim 5, wherein said piezoelectric layer has a composition containing $(Al_{1-x}B_x)N$ ($0 \leq x \leq 0.5$) in which boron nitride is added to aluminum nitride, and has a wurtzite crystal structure.
7. A surface acoustic wave element according to claim 5, wherein said piezoelectric

FOOTNOTES

8. A frequency filter including:

a second electrode which is formed on said piezoelectric layer and which converts to an electrical signal by resonating to a specific frequency or a frequency of a specific band of a surface acoustic wave generated in said piezoelectric layer by an electrical signal applied to said first electrode.

an electrical signal application electrode which is formed on the piezoelectric layer equipped with any one of the surface wave acoustic elements of claims 1 through 7 and which generates a surface acoustic wave in said piezoelectric layer according to an applied electrical signal; and

10. An electronic circuit including:

an electrical signal supply element which applies an electrical signal to the electrical signal application electrode provided in said frequency oscillator; wherein,

11. An electronic apparatus including at least one of the frequency filter according to claim 8, the frequency oscillator according to claim 9, and the electronic circuit according

to claim 10.

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